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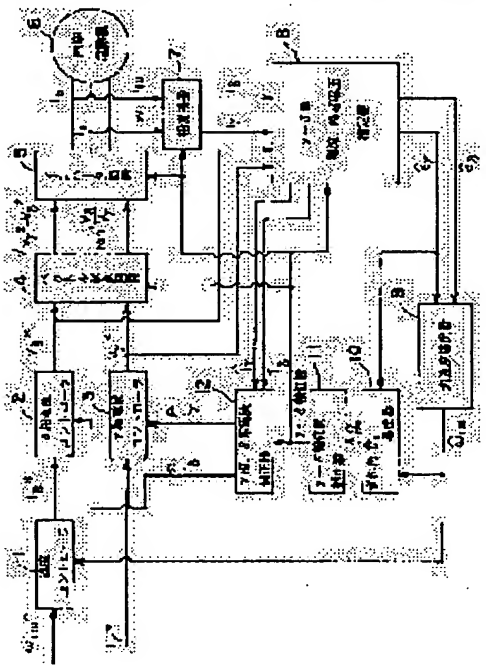
(71)Applicant : YASKAWA ELECTRIC CORP
(72)Inventor : OGURO RYUICHI
INAZUMI SUKEATSU
UMEDA NOBUHIRO
YAMAMOTO AKIHIRO

(54) METHOD FOR PRESUMING SPEED OF PERMANENT MAGNET SYNCHRONOUS MOTOR, METHOD FOR PRESUMING SLIP ANGLE OF ITS ROTOR AND METHOD FOR CORRECTING ROTOR POSITION

(57)Abstract:
PROBLEM TO BE SOLVED: To precisely presume an induced voltage occurring on the γ-δ axis of a permanent magnetic synchronous motor.
SOLUTION: A γ axis current iγ(k) and a δ axis current iδ(k) are calculated by detecting a stator current for two phases fed to a synchronous motor at the time of k.TS (where k=0,1,..., TS is a sampling time). and by converting it into a γ-δ coordinate system set up on a rotor. In a state presuming device 8, a corrected amounts are the difference between these currents and a γ axis current iγest (k) and a δ axis current iδest (k) presumed previously, voltage command value Vγ* (k) and Vδ* (k) converted into the γ-δ coordinate system are used as inputs, and induced voltages εγ (k) of the γ axis and εδ(k) of the δaxis generated every time the rotor rotates are used as the disturbance against a current response while the rotor is not in motion. Then, currents iγest(k+1), iδest(k+1) and induced voltages εγest(k+1) and εδest(k+1) are presumed in the γ-δ coordinate system at the time of (k+1).TS second.



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